

The comments I would like to make relate to the data that the manufacturer is required to make available on their web site rather than the Definition of servers or server classification. What I am suggesting may at first seem to be somewhat outside the scope of this specification, but I hope that on further reflection bearing in mind the overall goal of working towards more energy efficient installations you will see that the data is required for people to design and manage facilities effectively.

The issue relates to the fact that the way in which the heat is dissipated can make it easier or harder to efficiently cool the equipment. Further some configurations may simply be incompatible with the environment in which they are to be housed with the result that a disproportionate amount of cooling is required to create an adequate environment for the equipment. Some years ago ETSI attempted to address this in ETSI EN 300-119 part 5. Essentially the issue is that the way the equipment breaths and the airflow rate must be considered when housing different equipments together if they are to be cooled efficiently. For a facility designer or facility manager to choose and install equipment with energy efficiency in mind as well as the overall physical geometry and power data they need additional information describing:

- The location and size of inlets and outlets;
- Enough temperature rise, power dissipation data or airflow rate and direction data to adequately describe the equipment in it's intended operating mode;

In fact we have been asked to measure such data for large corporate clients when they are trying to select the most appropriate equipment for their data centre. In such circumstances they are interested not only in the power consumption and airflow data at stand-by, typical and maximum conditions but at a range of loads so that they can asses the equipment in view of the likely utilisation for different applications... A recent example was a comparison of Blade based systems where we were required to acquire data for:

- Standby;
- Idle;
- 10% processor utilisation
- 25% processor utilisation
- 50% processor utilisation
- 75% processor utilisation
- 100% processor utilisation
- Storm conditions

Further modern equipment can vary flow rate through it base on load / utilisation and the environmental conditions it is in and so such characterisation is required for the equipment to be considered fully in combination with its environment for an energy efficient solution.

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